

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 10.06.2013

Version number 1

Revision: 10.06.2013

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **Date of compilation:** 04.03.2010
- **1.1 Product identifier**
- **Trade name:** *LM Spezialentkalker / Special Descaler MG4215504 10l (6006.0110)*
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:** *Delimiting agent*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer / Supplier:**

| | | |
|---------------------------|-------------------------|------------------------------|
| <i>LM GmbH</i> | <i>Metos Oy Ab</i> | <i>Tel.: +358 204 394246</i> |
| <i>Iglinger Straße 62</i> | <i>Ahjonkaarre</i> | <i>web: www.metos.com</i> |
| <i>D-86899 Landsberg</i> | <i>FIN-04220 Kerava</i> | |
- **E-mail address of the competent person responsible for the Safety Data Sheet:** *juha.tirkkonen@metos.com*
- **Informing department:** *Product management*
- **1.4 Emergency telephone number:**
112

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

- Met. Corr.1 H290 May be corrosive to metals.*
- Skin Corr. 1B H314 Causes severe skin burns and eye damage.*
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

- R36/38: Irritating to eyes and skin.*
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05

- **Signal word** *Danger*
- **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**

| | |
|-------------|---|
| <i>P101</i> | <i>If medical advice is needed, have product container or label at hand.</i> |
| <i>P102</i> | <i>Keep out of reach of children.</i> |
| <i>P103</i> | <i>Read label before use.</i> |
| <i>P260</i> | <i>Do not breathe mist/vapours/spray.</i> |
| <i>P280</i> | <i>Wear protective gloves/protective clothing/eye protection/face protection.</i> |

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- P303+P361+P353 IF ON SKIN (or hair):** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310** Immediately call a POISON CENTER or doctor/physician.
- P304+P340** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P301+P330+P331 IF SWALLOWED:** rinse mouth. Do NOT induce vomiting.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

| | | |
|---|---|---------|
| CAS: 5329-14-6 EINECS: 226-218-8 Index number: 016-026-00-0 | Sulphamic acid  Xi R36/38 R52/53  Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Chronic 3, H412 | 2.5-10% |
| CAS: 7664-38-2 EINECS: 231-633-2 Index number: 015-011-00-6 | Phosphoric acid  C R34  Met. Corr.1, H290; Skin Corr. 1B, H314 | 2.5-10% |

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

- **Ingredients according to Regulation (EC) No 648/2004:**

| | |
|-----------------------|------|
| non-ionic surfactants | < 5% |
|-----------------------|------|

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Immediately remove any clothing contaminated by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact:**
Instantly wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
Use eye protection.
Call a doctor immediately.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting - Danger of perforation!
Call a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** none

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- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire:
Nitrogen oxides (NO_x)
Oxides of phosphorus (P_xO_y)
Sulphur oxides (SO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation.
Avoid contact with skin and eyes.
- **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
Dilute with much water.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable containers.
Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Avoid contact with skin and eyes.
Do not breathe vapour/spray.
Make sure that all applicable workplace limits are observed.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Store in the original container.
Observe all local and national regulations for storage of water polluting products.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1 Control parameters**

· **Components with critical values that require monitoring at the workplace:**

7664-38-2 Phosphoric acid

WEL (Great Britain)

Short-term value: 2 mg/m³
Long-term value: 1 mg/m³

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| | |
|------------------------|---------------------------------------|
| IOELV (European Union) | Short-term value: 2 mg/m ³ |
| | Long-term value: 1 mg/m ³ |

- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and food.
Instantly remove any contaminated garments.
Wash hands during breaks and at the end of the work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Do not eat, drink or smoke while working.
- **Breathing equipment:**
Use breathing protection when aerosol or mist is formed.
If all workplace limits are observed and good ventilation is ensured, no special precautions necessary.
- **Protection of hands:**
Protective gloves
To avoid skin problems reduce the wearing of gloves to the required minimum.
Check the permeability prior to each renewed use of the glove.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed safety glasses
- **Body protection:**
Protective work clothing
Body protection must be chosen depending on activity and possible exposure.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

| | |
|------------------|----------------|
| Form: | liquid |
| Colour: | yellowish |
| Smell: | characteristic |
| Odour threshold: | not determined |
- **pH-value at 20 °C:** < 1
- **Change in condition**

| | |
|------------------------------|----------------|
| Melting point/Melting range: | not determined |
| Boiling point/Boiling range: | ≥ 100 °C |
- **Flash point:** not applicable
- **Inflammability (solid, gaseous)** Not applicable.

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| | |
|---|-----------------|
| · Ignition temperature: | |
| Decomposition temperature: | Not determined. |
| · Self-inflammability: Product is not selfigniting. | |
| · Danger of explosion: Product is not explosive. | |
| · Critical values for explosion: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| · Oxidizing properties not classified as oxidising | |
| · Vapor pressure at 20 °C: 23 hPa | |
| · Density at 20 °C: 1.085 g/cm ³ | |
| · Relative density Not determined. | |
| · Vapour density (AIR = 1): Not determined. | |
| · Evaporation rate Not determined. | |
| · Solubility in / Miscibility with Water: fully miscible | |
| · Partition coefficient (n-octanol/water): Not determined. | |
| · Viscosity: | |
| dynamic: | not determined |
| kinematic: | not determined |
| Organic solvents: 0 % | |
| · 9.2 Other information Further informations please refer to technical data sheet. | |

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Corrosive action on metals
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Nitrogen oxides (NO_x)
Phosphorus oxides (e.g. P₂O₅)
Sulphur oxides (SO_x)

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

5329-14-6 Sulphamic acid

| | | |
|------|------|------------------|
| Oral | LD50 | 3160 mg/kg (rat) |
|------|------|------------------|

7664-38-2 Phosphoric acid

| | | |
|--------|------|---------------------|
| Oral | LD50 | 1530 mg/kg (rat) |
| Dermal | LD50 | 2740 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** Corrosive to skin and mucous membranes.
- **on the eye:** Causes serious eye damage.

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· **Additional toxicological information:**

Toxicological and ecological data of a main ingredient are not available. For this reason a classification is not possible.

Skin Corr. 1B

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Irritant

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

According to present knowledge no CMR-effects known.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

5329-14-6 Sulphamic acid

| | |
|-----------|------------------|
| LC50/96 h | 70.3 mg/l (fish) |
|-----------|------------------|

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 1 (Self-assessment): slightly hazardous for water

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· **Waste disposal key number:** According to local/national regulations.

· **European waste catalogue:**

Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3264

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| | |
|---|---|
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA | <p>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID, SOLUTION, SULPHAMIC ACID)</p> <p>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID, SOLUTION, SULPHAMIC ACID)</p> |
|---|---|

· 14.3 Transport hazard class(es)

· ADR



| | |
|--|--|
| <ul style="list-style-type: none"> · Class · Label | <p>8 (C1) Corrosive substances.</p> <p>8</p> |
|--|--|

· IMDG, IATA



| | |
|--|---|
| <ul style="list-style-type: none"> · Class · Label | <p>8 Corrosive substances.</p> <p>8</p> |
|--|---|

· 14.4 Packing group

· ADR, IMDG, IATA

III

· 14.5 Environmental hazards:

· Marine pollutant:

NO

· 14.6 Special precautions for user

Warning: Corrosive substances.

· Kemler Number:

80

· EMS Number:

F-A,S-B

· Segregation groups

Acids

· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:

· ADR

· Excepted quantities (EQ): E1

· Limited quantities (LQ): 5L

· Transport category: 3

· Tunnel restriction code: E

· UN "Model Regulation":

UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID, SOLUTION, SULPHAMIC ACID), 8, III

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

· National regulations

· Information about limitation of use: Employment restrictions concerning young persons must be observed.

· Decree to be applied in case of technical fault: Directive 96/82/EC does not apply.

· Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water

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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Reasons for changes:**

*The Material Safety Data Sheet has been revised. Changes in the respective chapters are characterized in the left side edge by *.*

· **Relevant phrases**

The(se) R- resp. H-phrase(s) are those of the ingredient(s) and do(es) not necessarily represent the classification of the preparation.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

R34 Causes burns.

R36/38 Irritating to eyes and skin.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Department issuing MSDS:**

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47809 Krefeld / Germany

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· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent